SRS REPORT

Course: Web and Mobile Application Development (CS3077)

WEB APPLICATION PROJECT

ON

COLLEGE BAZAAR

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INTRODUCTION

Purpose:

The purpose of this Software Requirements Specification (SRS) document is to describe the functional, non-functional, and system design requirements for the College Bazaar Web Application.

The College Bazaar platform is designed to provide a secure and efficient online marketplace exclusively for university students to buy and sell used goods such as books, gadgets, and other essentials. It encourages sustainability, fosters community engagement, and simplifies peer-to-peer transactions within the campus.

Scope:

The College Bazaar web application will:
- Allow verified university students to list used items for sale with complete details (name, category, description, price, and condition).
- Provide an intuitive interface for browsing, searching, and filtering items by category, price, and date.
- Include a real-time chat feature for direct buyer-seller communication.
- Allow admins to monitor listings and manage disputes to maintain trust and platform integrity.
- Provide notifications for messages, listing updates, or admin actions.
- Support cross-device access (laptops, tablets, mobile phones) via a responsive UI.

This system aims to reduce waste, promote reuse, and create a convenient environment for students to trade within their own university ecosystem.

PROJECT IDEA

Problem Statement:

Students frequently need affordable academic materials, electronics, and other daily-use items. However, there is no dedicated digital marketplace within universities that connects buyers and sellers directly. Most rely on social media or external e-commerce platforms, which are often unorganized, unsafe, or unreliable.

This lack of a verified, student-only marketplace leads to missed opportunities for both buyers and sellers, as well as unnecessary waste of usable resources.

Proposed Solution:

College Bazaar provides a dedicated, campus-exclusive web portal where students can buy and sell used goods conveniently and safely.

It ensures trust through email verification, enables smooth communication through in-app chat, and promotes eco-friendly trading practices that benefit both the students and the environment.

Key Highlights:

- User-friendly web interface.
- Verified student accounts (university email login).
- Real-time chat system for quick communication.
- Responsive design for all devices.
- Admin-controlled moderation for safety.

System Interaction:

The system interaction acknowledges the flow between users, the web server, and the database:

- Seller uploads item details and images.
- Buyer browses and initiates chat with the seller.
- Server validates requests, handles chat, and stores data in the database.
- Admin oversees platform activities and resolves disputes.

Objectives:

1. To create a reliable and user-friendly campus marketplace.
2. To make buying and selling of used goods simple and organized.
3. To ensure privacy and trust through verified student access.
4. To build an environmentally conscious trading culture.
5. To provide admin controls for moderation and data integrity.

SRS REPORT

Project Description

The College Bazaar web application follows a client-server architecture, integrating modern full-stack technologies:

- Frontend: React.js for dynamic and responsive UI.
- Backend: Node.js with Express.js for API management and logic handling.
- Database: MongoDB for efficient and flexible data storage.
- Authentication: Firebase for secure login and real-time alerts.

Data transmission between client and server occurs via REST APIs using JSON over HTTPS, ensuring both performance and data security.

System Features:

1. **User Authentication**: Verified login through university email.
2. **Item Listing:** Add, edit, and manage items with photos and descriptions.
3. **Search & Filter:** Quickly locate products using categories or keywords.
4. **Chat System:** Direct buyer-seller interaction through real-time messaging.
5. **Admin Panel:** Manage users, handle reports, and ensure fair usage.
6. **Notifications:** Alert users about new messages, offers, or sales.
7. **Feedback & Ratings:** Encourage trust through transaction reviews.
8. **Responsive Design:** Optimized for mobile, tablet, and desktop devices.

Functional Requirements:

1. User Registration & Login
2. Authentication & Session Management
3. Item Posting
4. Search & Filter System
5. Chat Feature
6. Profile Management
7. Admin Dashboard
8. Review System
9. Error Handling
10. Notification System

Non-Functional Requirements:

1. Performance
2. Scalability
3. Security
4. Availability
5. Usability
6. Maintainability
7. Portability
8. Reliability
9. Data Backup
10. Compliance

DEVELOPMENT PROCESS

Development Methodology:

The Agile Development Model is adopted to ensure flexibility and continuous improvement through iterative sprints.
Each sprint includes:
1. Requirement Gathering
2. System Design
3. Implementation
4. Testing
5. Deployment & Feedback

SYSTEM ARCHITECTURE

Basic Architecture:

The system is divided into three layers:
- Frontend (React.js)
- Backend (Node.js/Express)
- Database (MongoDB)
External services like Firebase manage login authentication and notifications.

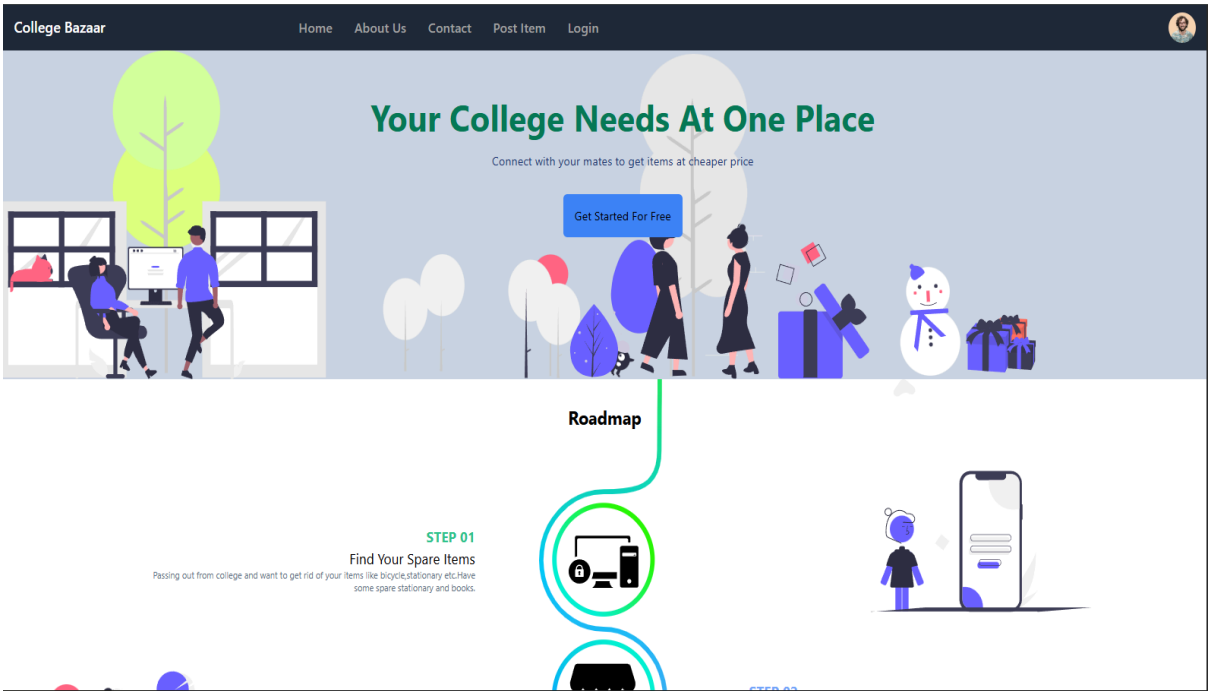
Detailed System Architecture:

The React.js frontend communicates with the Express.js API backend. The backend processes requests, interacts with the MongoDB database, and returns the required data. Each feature—authentication, chat, admin moderation, and listing—is modularized to ensure scalability and maintainability. Notifications and real-time chat are powered through Firebase integration, ensuring seamless user communication.

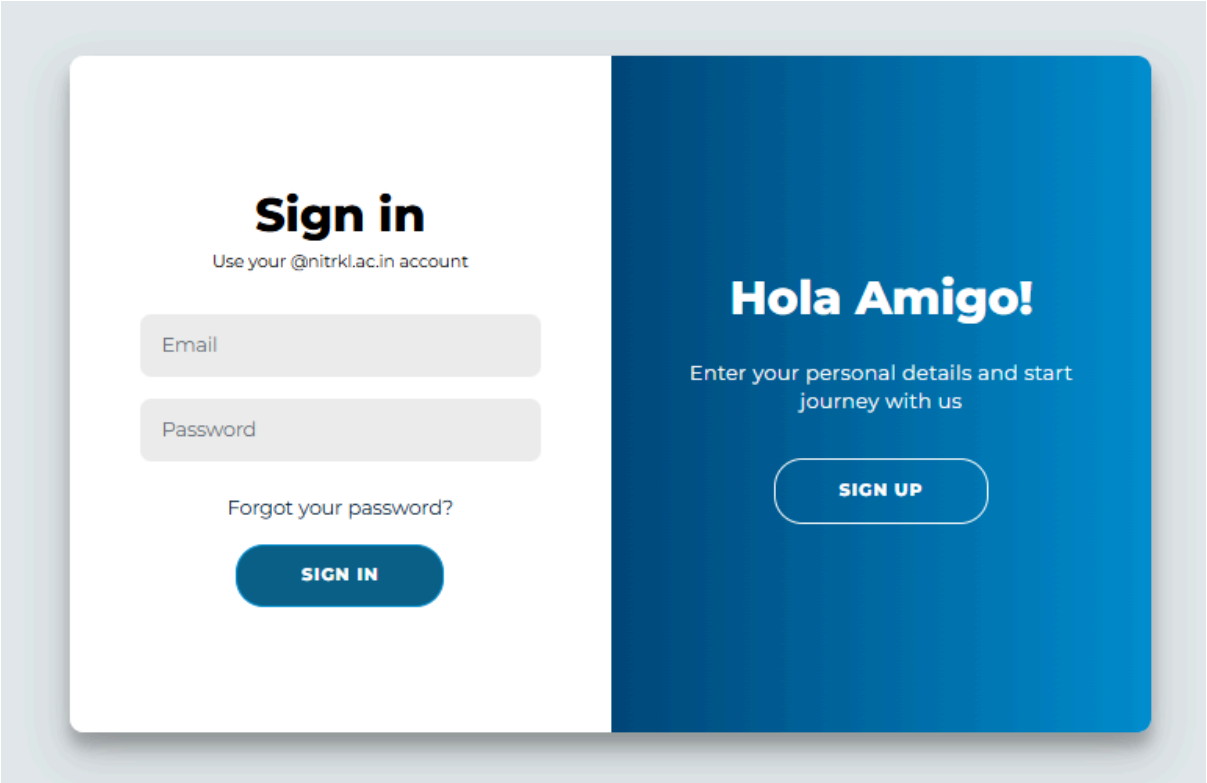
PROJECT OVERVIEW

Roadmap:

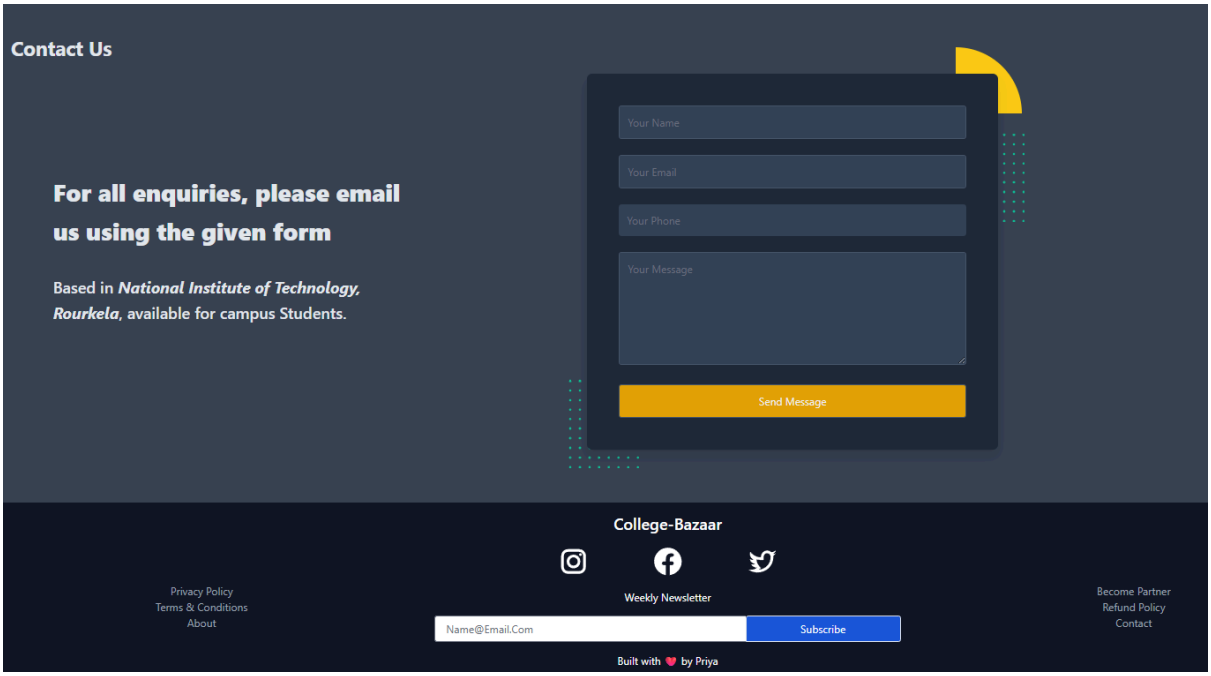
Homepage:



Log in page:



Dashboard:



PROJECT ABSTRACT

The College Bazaar Web Application is a full-stack platform designed for university students to buy and sell pre-owned goods easily and securely. It aims to simplify campus trade by providing a verified, community-driven platform that promotes affordability and sustainability.

Built using the MERN stack (MongoDB, Express, React, Node.js), and integrated with Firebase for authentication and notifications, the system provides scalability, security, and responsiveness.

In future iterations, the project aims to include AI-based price suggestions, secure payment gateways, and campus-level delivery tracking to enhance the overall experience and efficiency.

CONCLUSION

The College Bazaar Web Application provides a reliable, user-friendly, and sustainable platform for students to trade within their own university community.

By combining modern technologies such as React.js, Node.js, and Firebase, the system ensures high performance, secure access, and seamless communication. The application not only simplifies buying and selling but also supports environmental consciousness through reuse.

Future enhancements like AI-assisted pricing, payment integration, and multi-campus connectivity will elevate the platform’s potential, making it a robust, scalable, and community-driven solution for digital campus commerce.